

FIG. 1

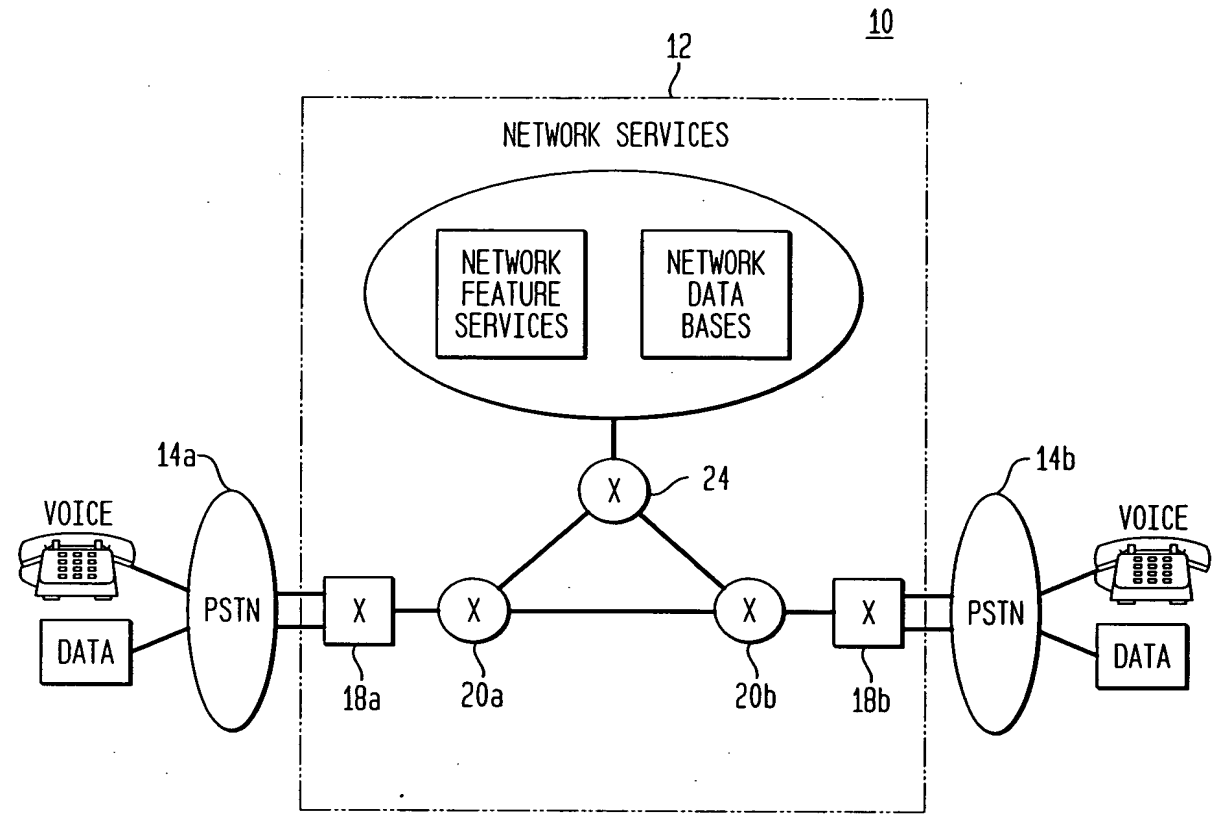


FIG. 2

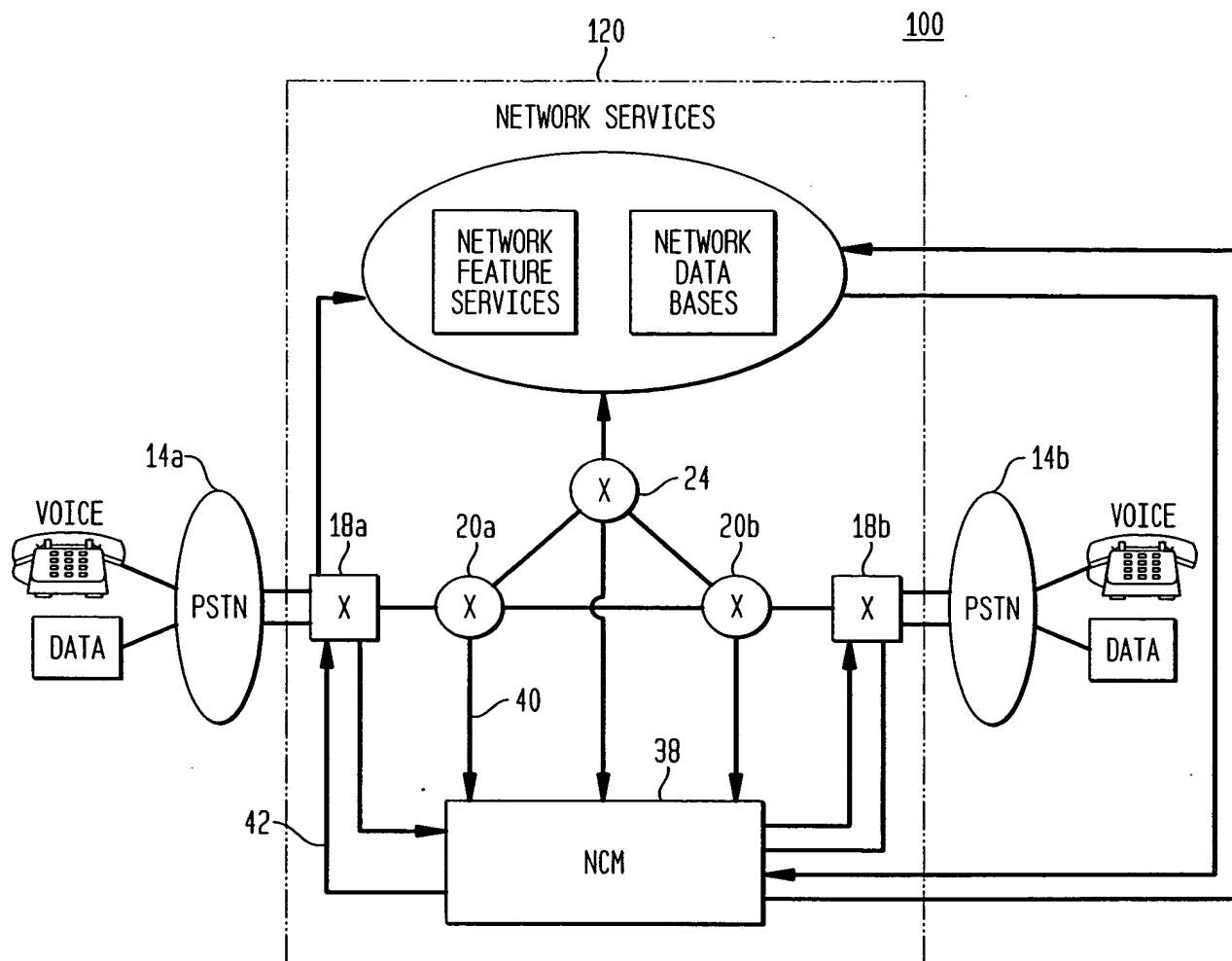


FIG. 3A

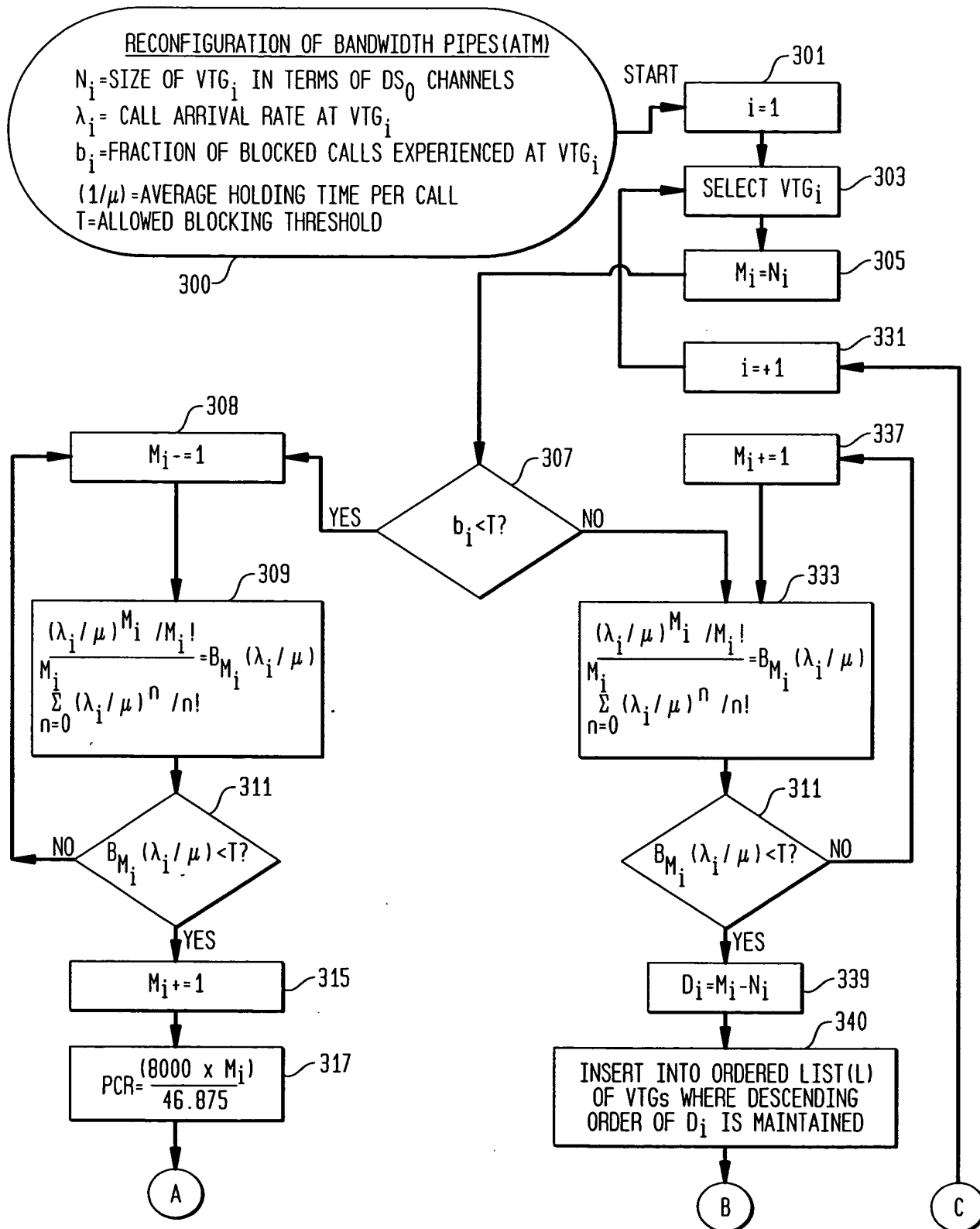


FIG. 3B

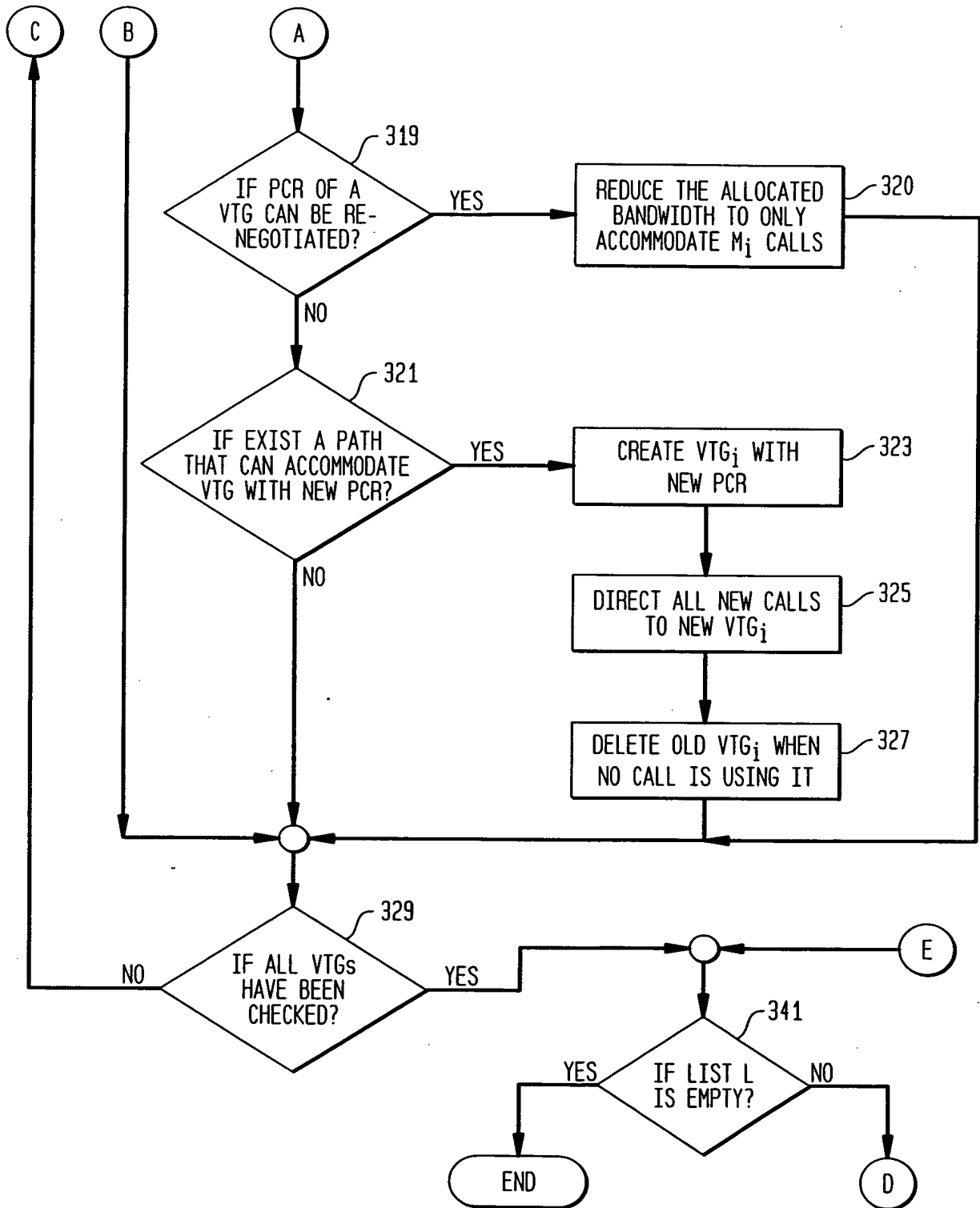


FIG. 3C

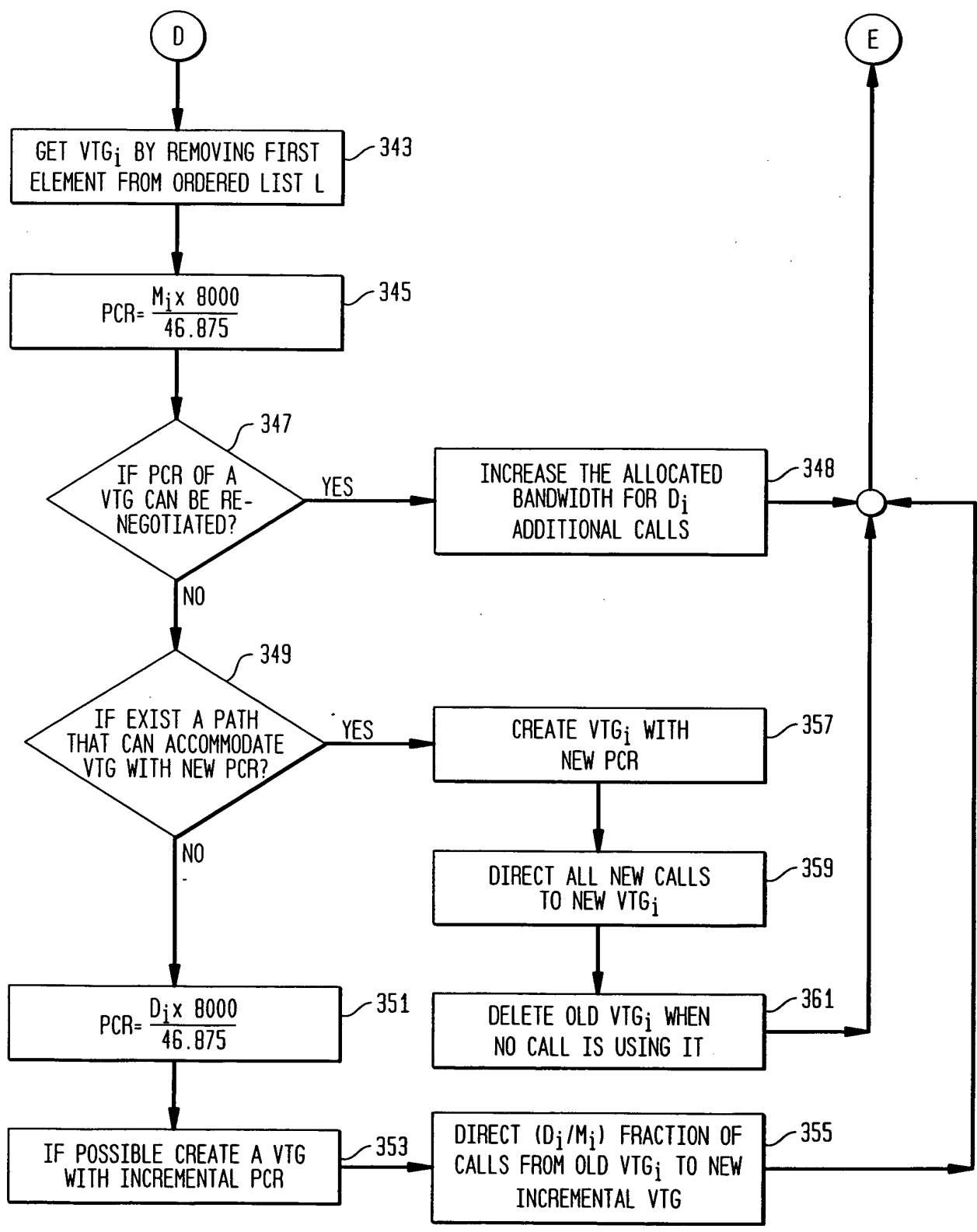


FIG. 4A

400

RE-ROUTING/CALL GAPPING OF CALLS IN PSTN DOMAIN(ATM)

 N_i = SIZE OF VTG_i IN TERMS OF DS₀ CHANNELS

 λ_i = CALL ARRIVAL RATE AT VTG_i
 b_i = FRACTION OF BLOCKED CALLS EXPERIENCED AT VTG_i
 $(1/\mu)$ = AVERAGE HOLDING TIME PER CALL

 B_i = FRACTION OF BLOCKED CALLS EXPERIENCED AT VTG_i

T = ALLOWED BLOCKING THRESHOLD

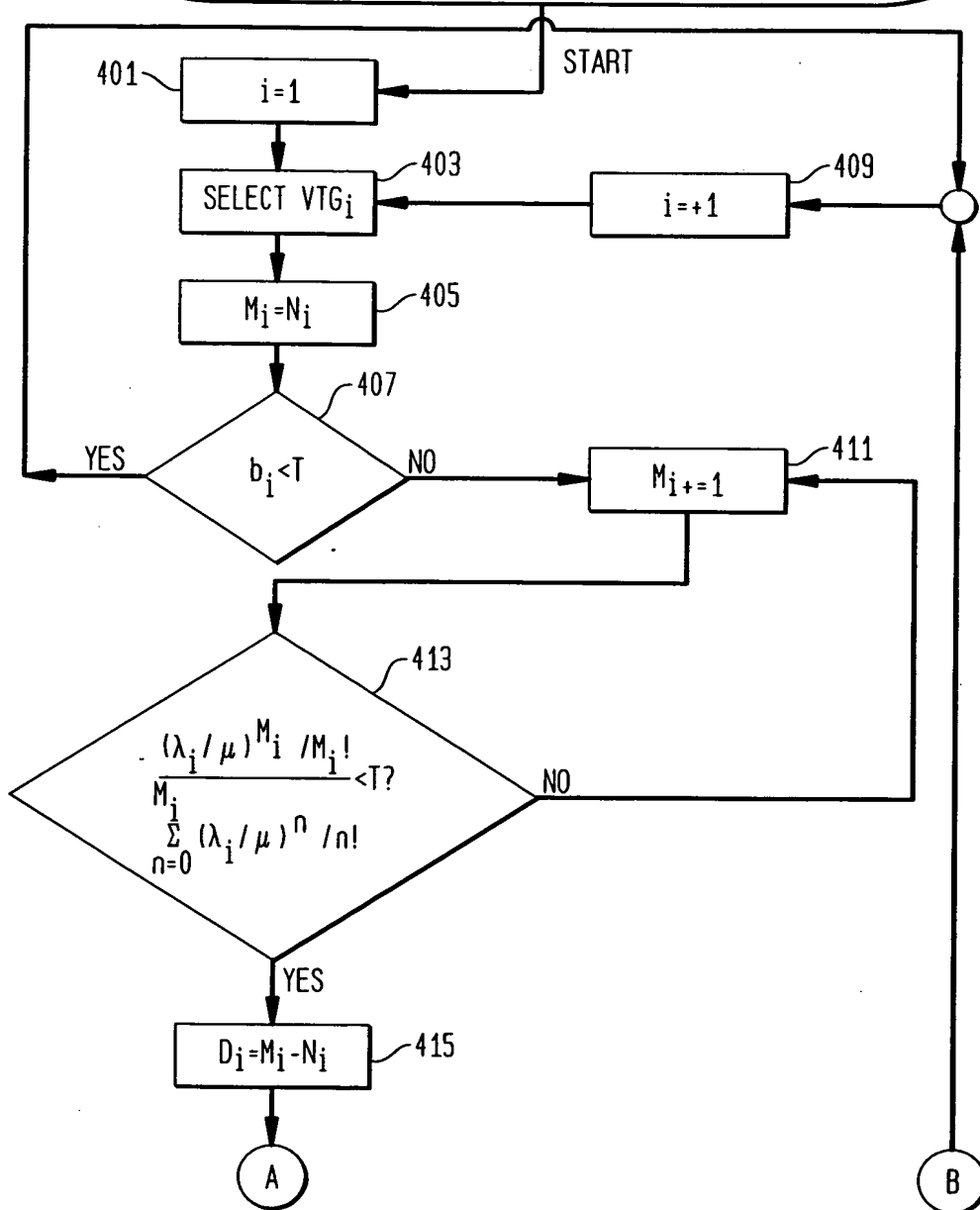


FIG. 4B

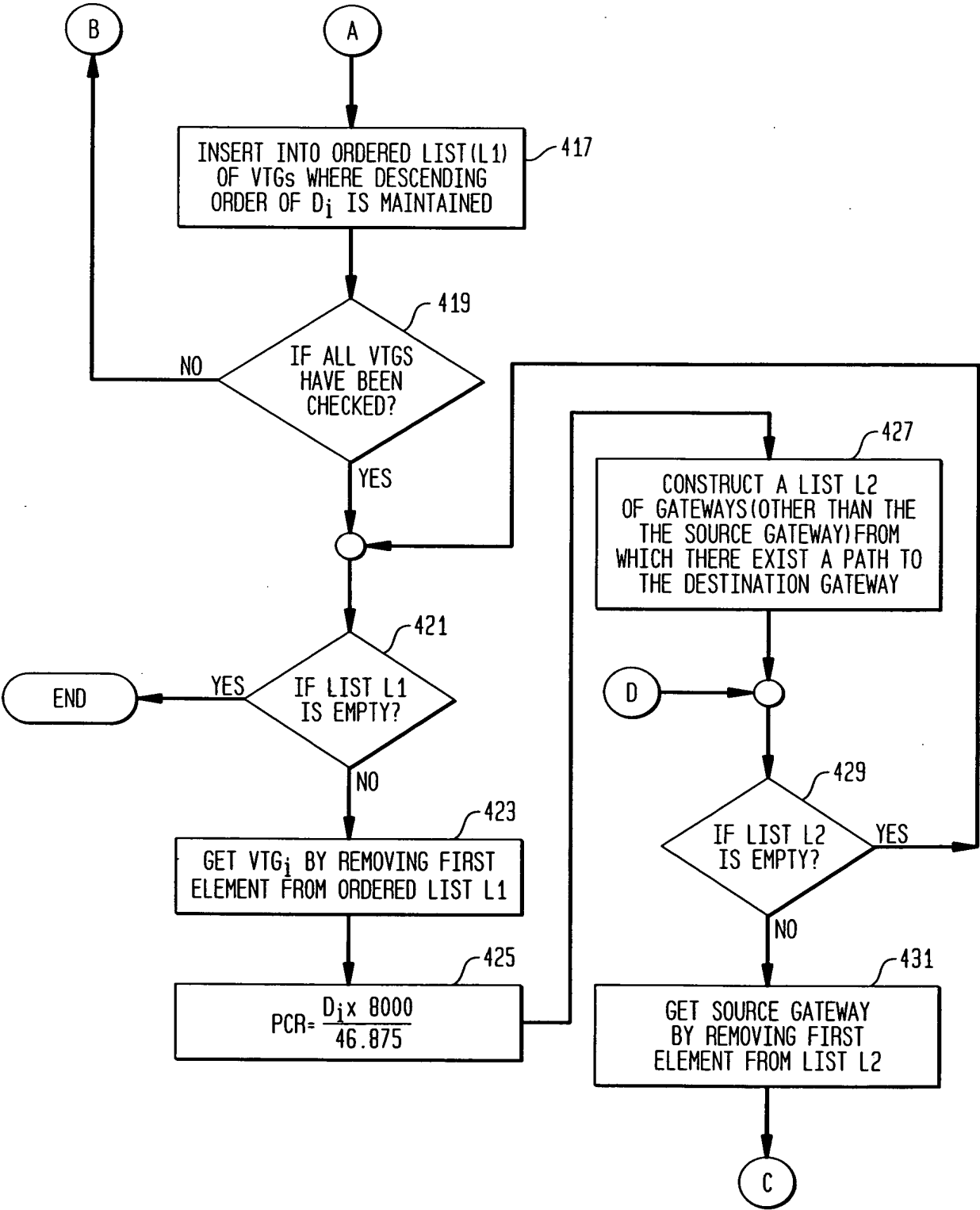
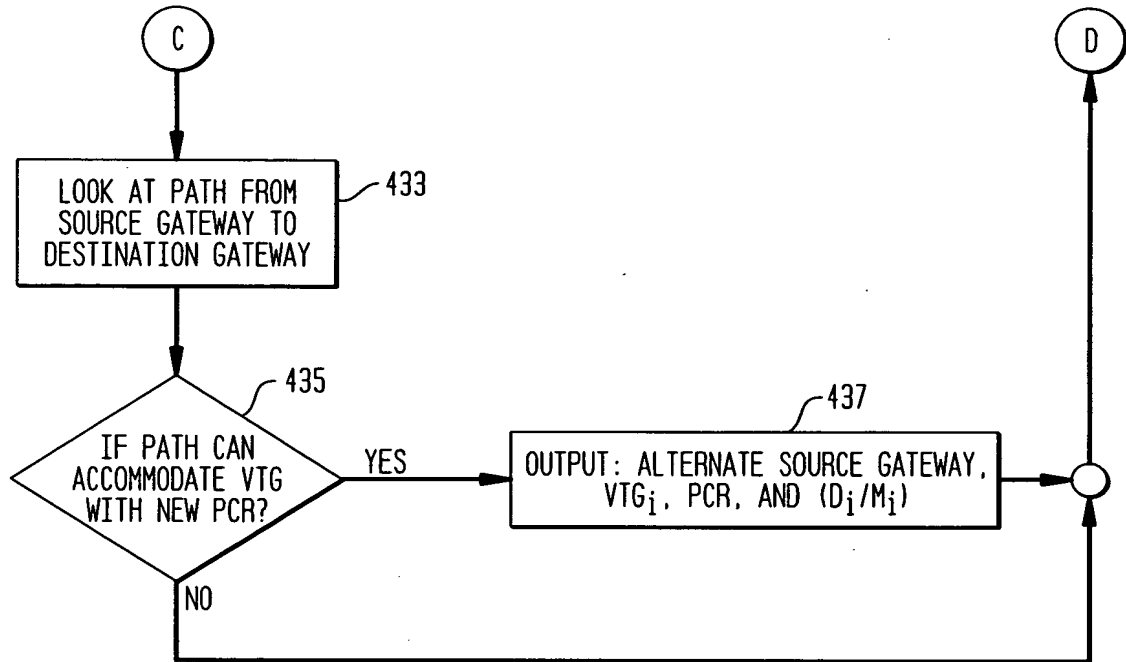
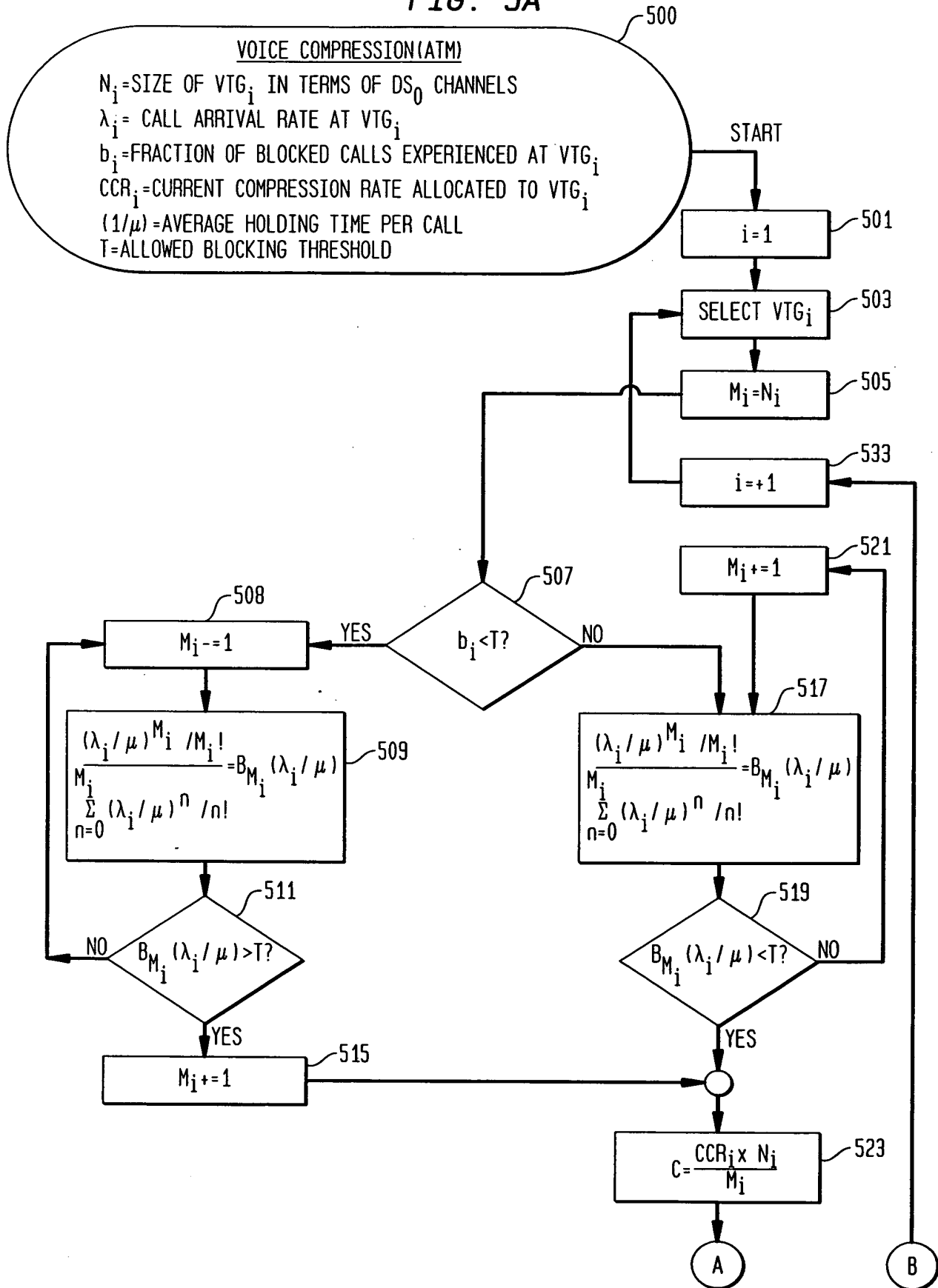


FIG. 4C



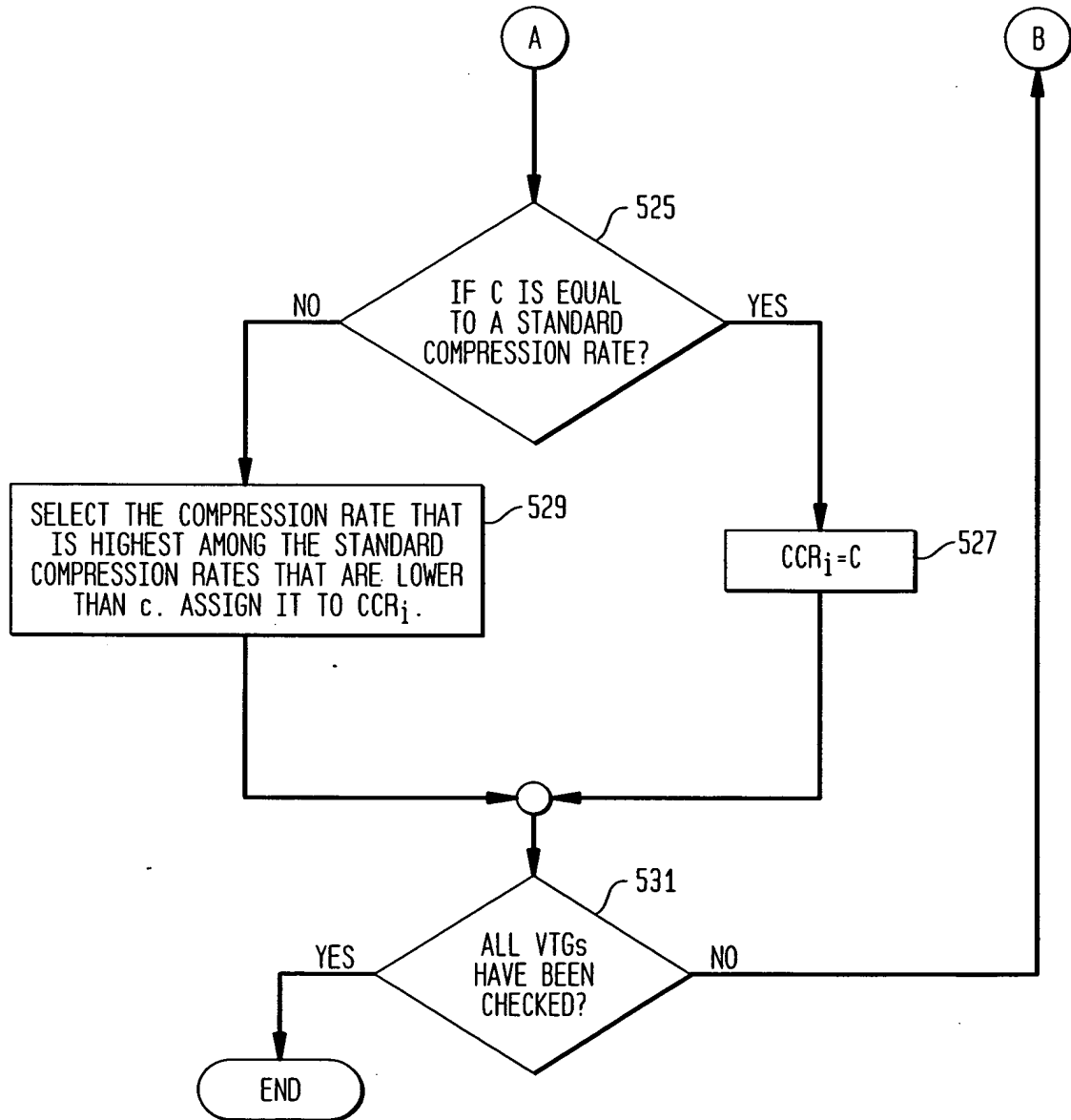
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FIG. 5A



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FIG. 5B



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FIG. 6A

600

CALL BLOCKING (UNAVAILABILITY OF RTP MEASUREMENTS)
 PU_i = UTILIZATION OF i^{th} PORT

 PC_i = CAPACITY OF i^{th} PORT

 U_t = UTILIZATION THRESHOLD

 λ_k = CALL ARRIVAL RATE FOR k^{th} PVG PAIR

 N_k = NUMBER OF CALLS FOR WHICH BANDWIDTH IS ALLOCATED TO k^{th} PVG PAIR

 ρ_{B_i} = BANDWIDTH REDUCTION CORRECTION FACTOR DUE TO THE i^{th} PORT

 ρ_{G_i} = BANDWIDTH INCREMENTAL CORRECTION FACTOR DUE TO THE i^{th} PORT

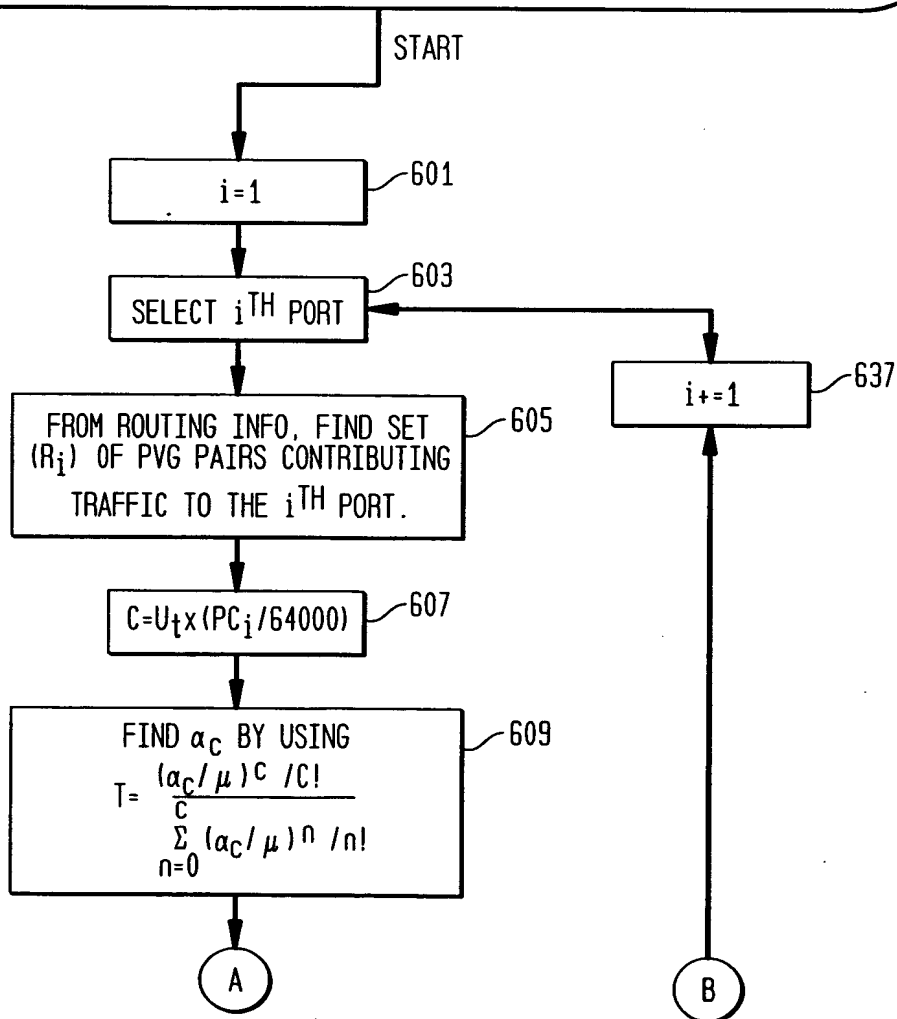
 f_k = BANDWIDTH REDUCTION CORRECTION FACTOR ASSIGNED TO THE k^{th} PVG PAIR

 e_k = BANDWIDTH INCREMENTAL CORRECTION FACTOR ASSIGNED TO THE k^{th} PVG PAIR

 B_k = ASSIGNED BLOCKING PROBABILITY TO THE k^{th} PVG PAIR

 $(1/\mu)$ = AVERAGE CALL HOLDING TIME

T = BLOCKING THRESHOLD



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FIG. 6B

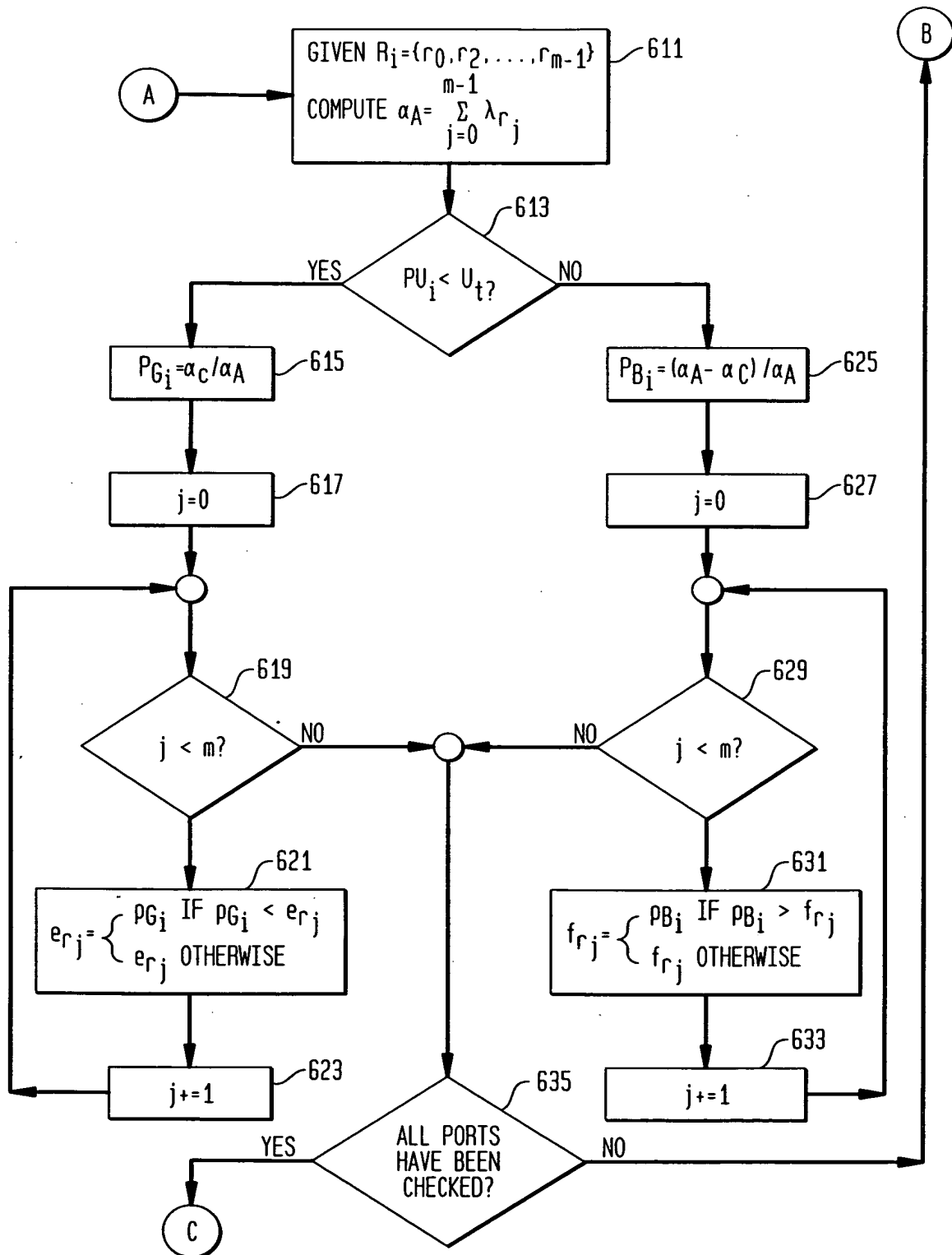
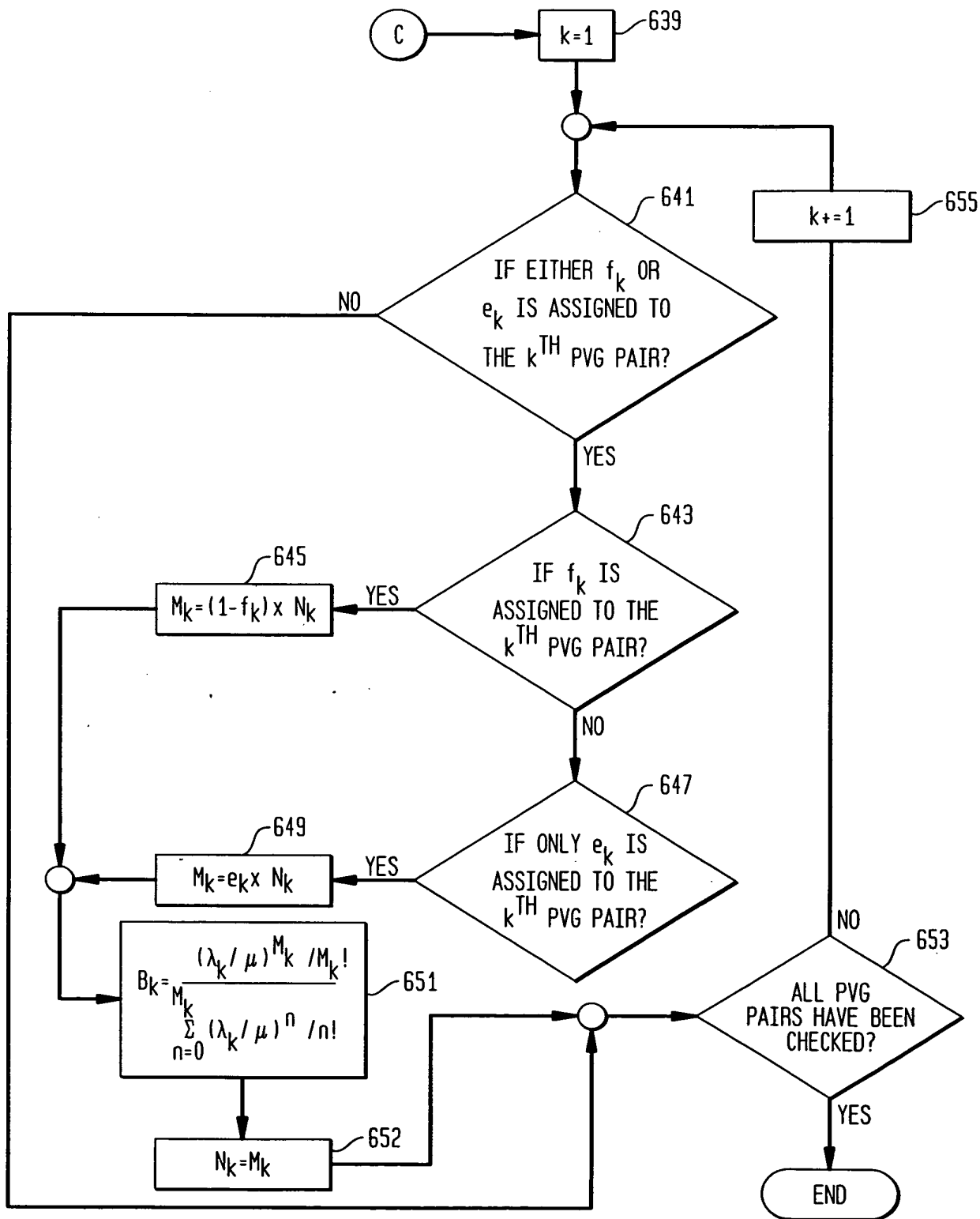


FIG. 6C



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FIG. 7A

700

CALL BLOCKING (AVAILABILITY OF RTP MEASUREMENTS)

L_c = FRACTION OF PACKET LOSS PER CALL

L_t = PACKET LOSS THRESHOLD

D_c = DELAY JITTER PER CALL

D_t = DELAY JITTER THRESHOLD

N_i = NUMBER OF ACTIVE CALLS IN i^{th} PVG PAIR

$PVGPAIR_i = i^{th}$ PVG PAIR

S = SET OF PVG PAIRS BETWEEN WHICH POOR PERFORMING CALLS EXIST

P = SET OF ALL PVG PAIRS

F_i = INDICATOR FLAG FOR $PVGPAIR_i$

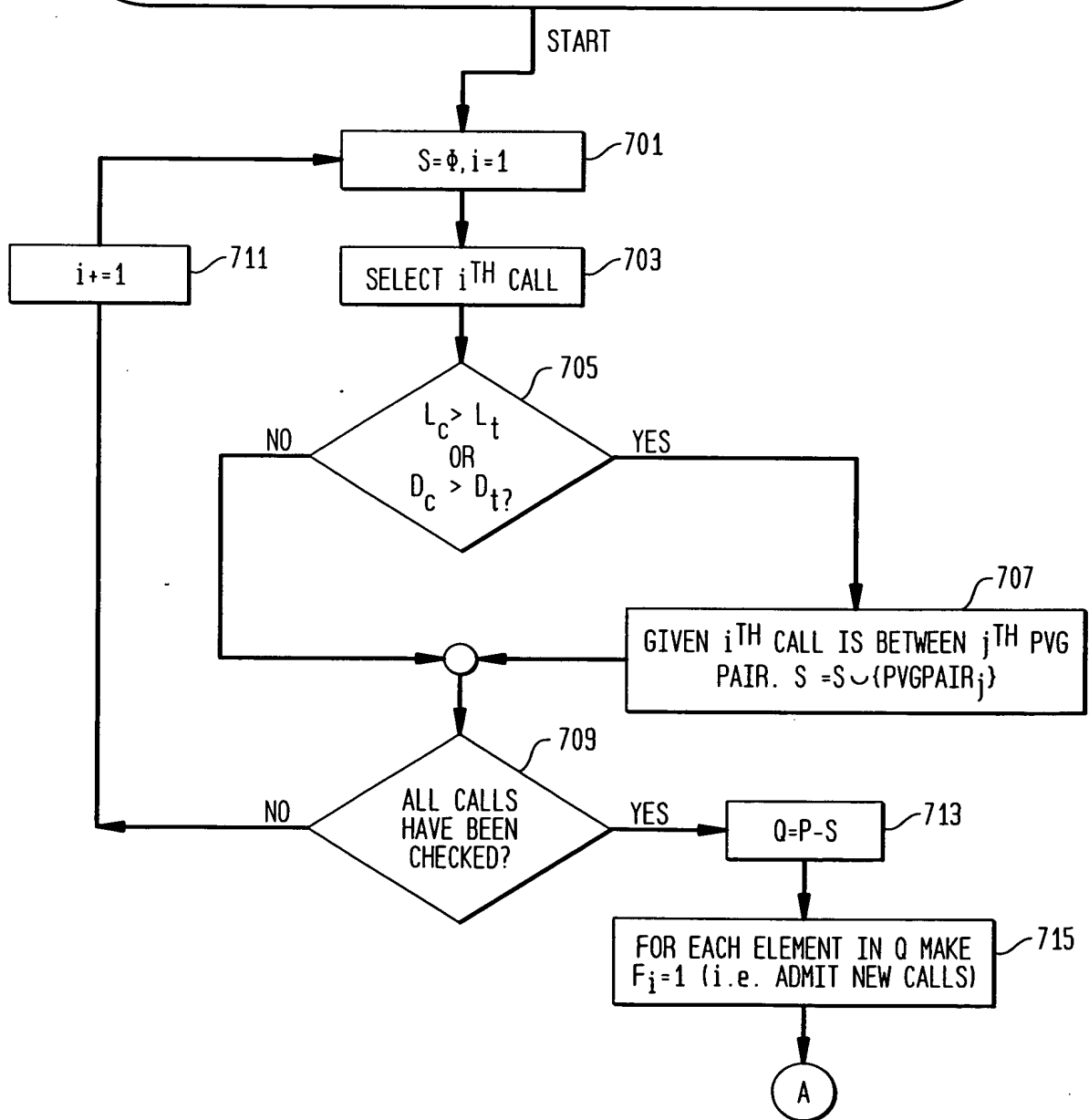


FIG. 7B

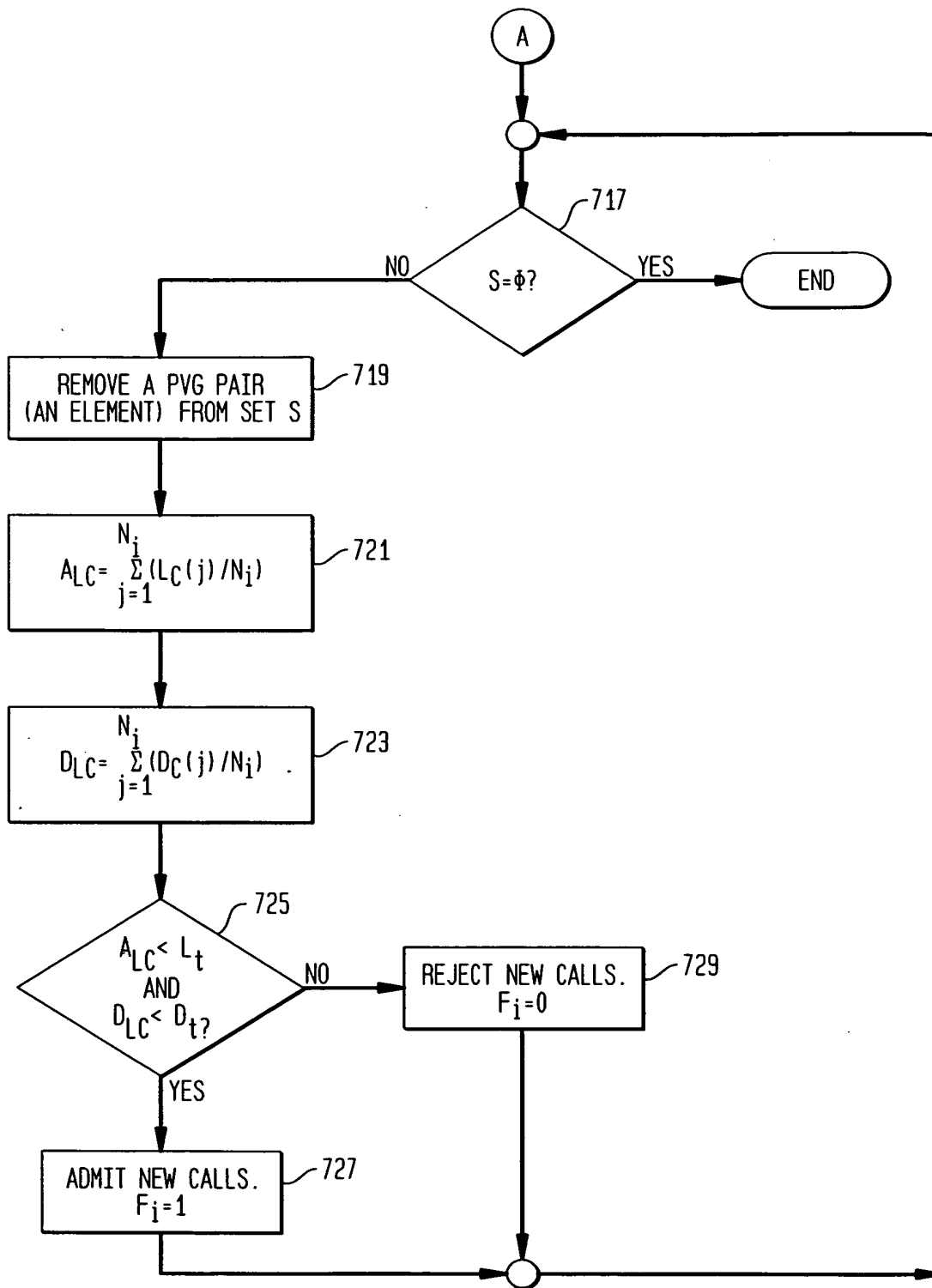


FIG. 8A

800

RE-ROUTING/CALL GAPPING (AVAILABILITY/UNAVAILABILITY OR RTP MEASUREMENTS)
 PU_i = UTILIZATION OF i^{th} PORT

 PC_i = CAPACITY OF i^{th} PORT

 U_t = UTILIZATION THRESHOLD

 λ_k = CALL ARRIVAL RATE FOR k^{th} PVG PAIR

 N_k = NUMBER OF CALLS FOR WHICH BANDWIDTH IS ALLOCATED TO k^{th} PVG PAIR

 $(1/\mu)$ = AVERAGE CALL HOLDING TIME

 p_{B_i} = BANDWIDTH CORRECTION FACTOR DUE TO i^{th} PORT

 f_k = BANDWIDTH CORRECTION FACTOR ASSIGNED TO THE k^{th} PVG PAIR

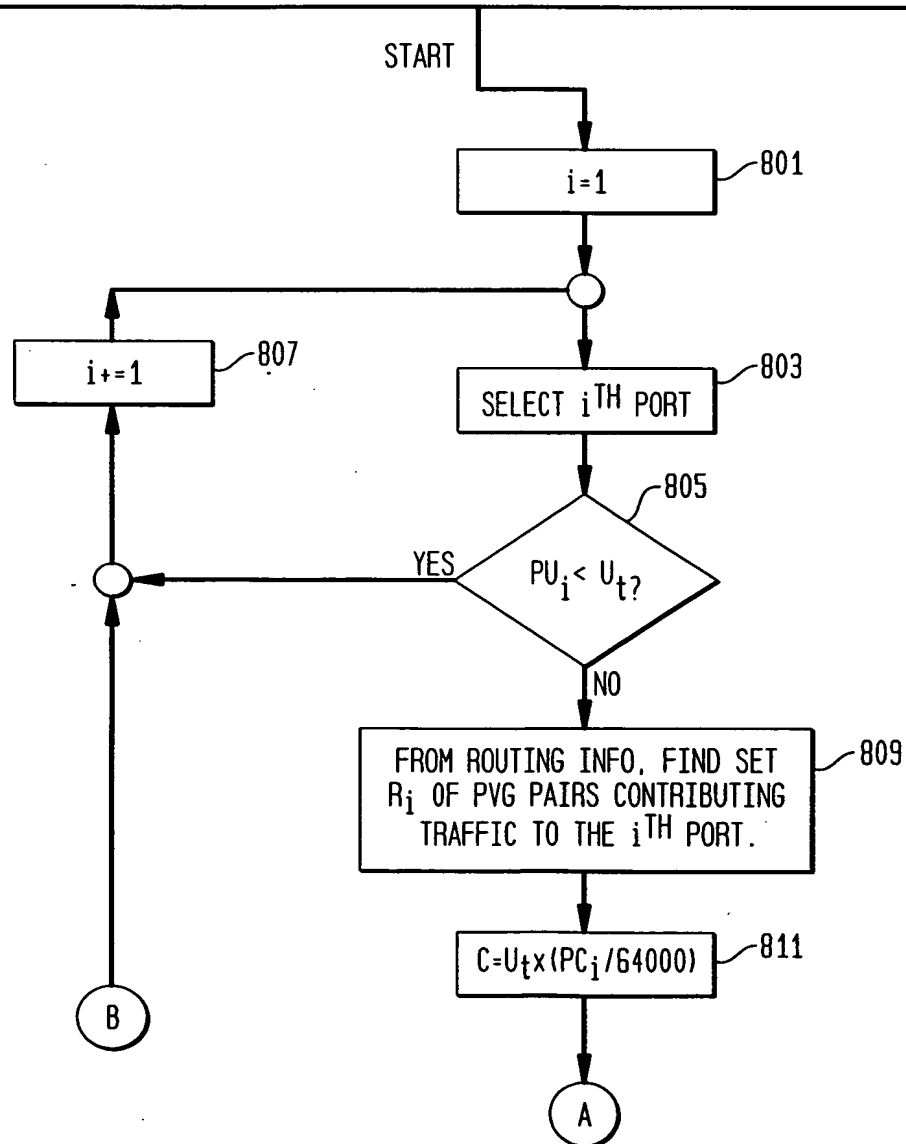
 T = BLOCKING THRESHOLD


FIG. 8B

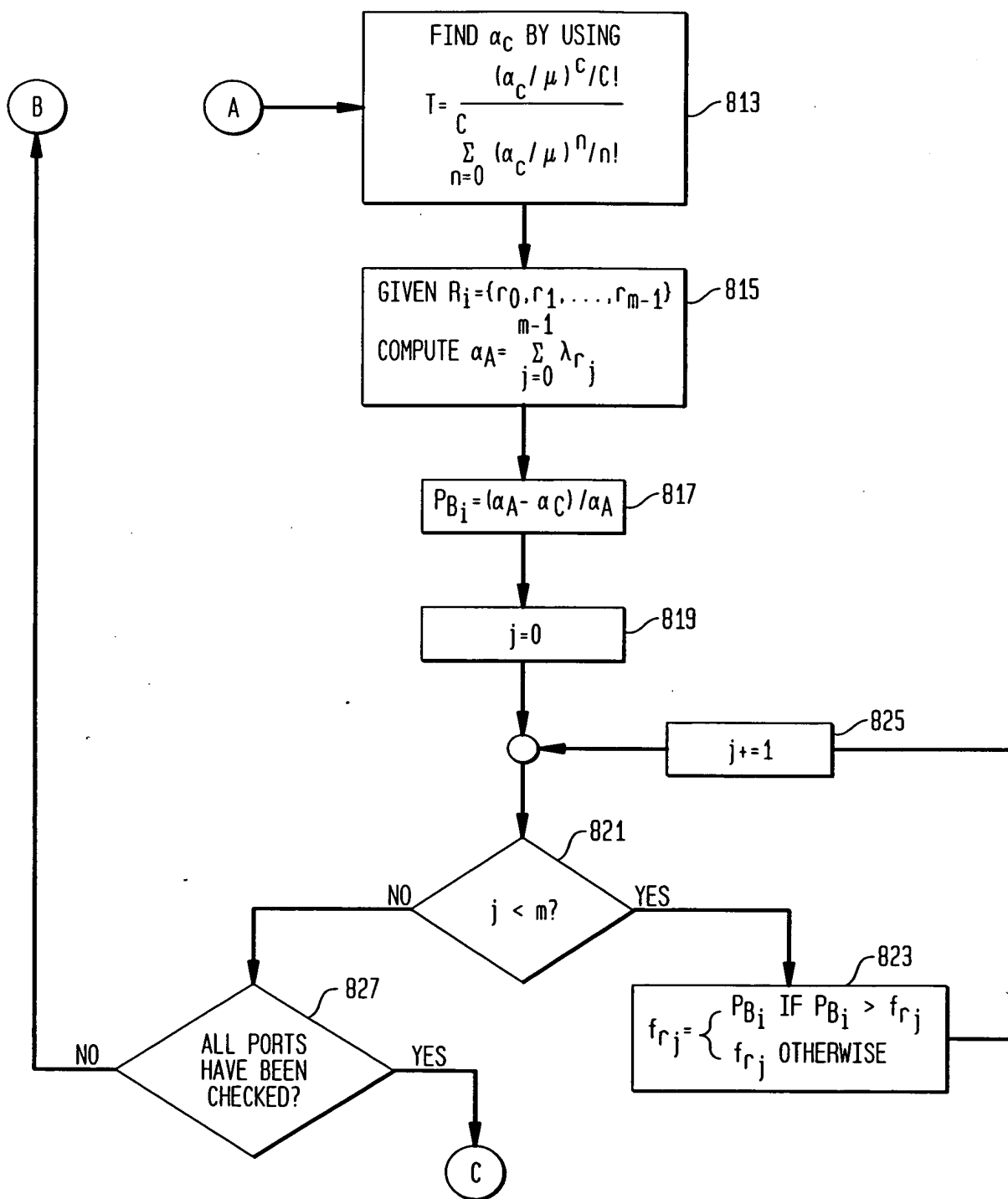


FIG. 8C

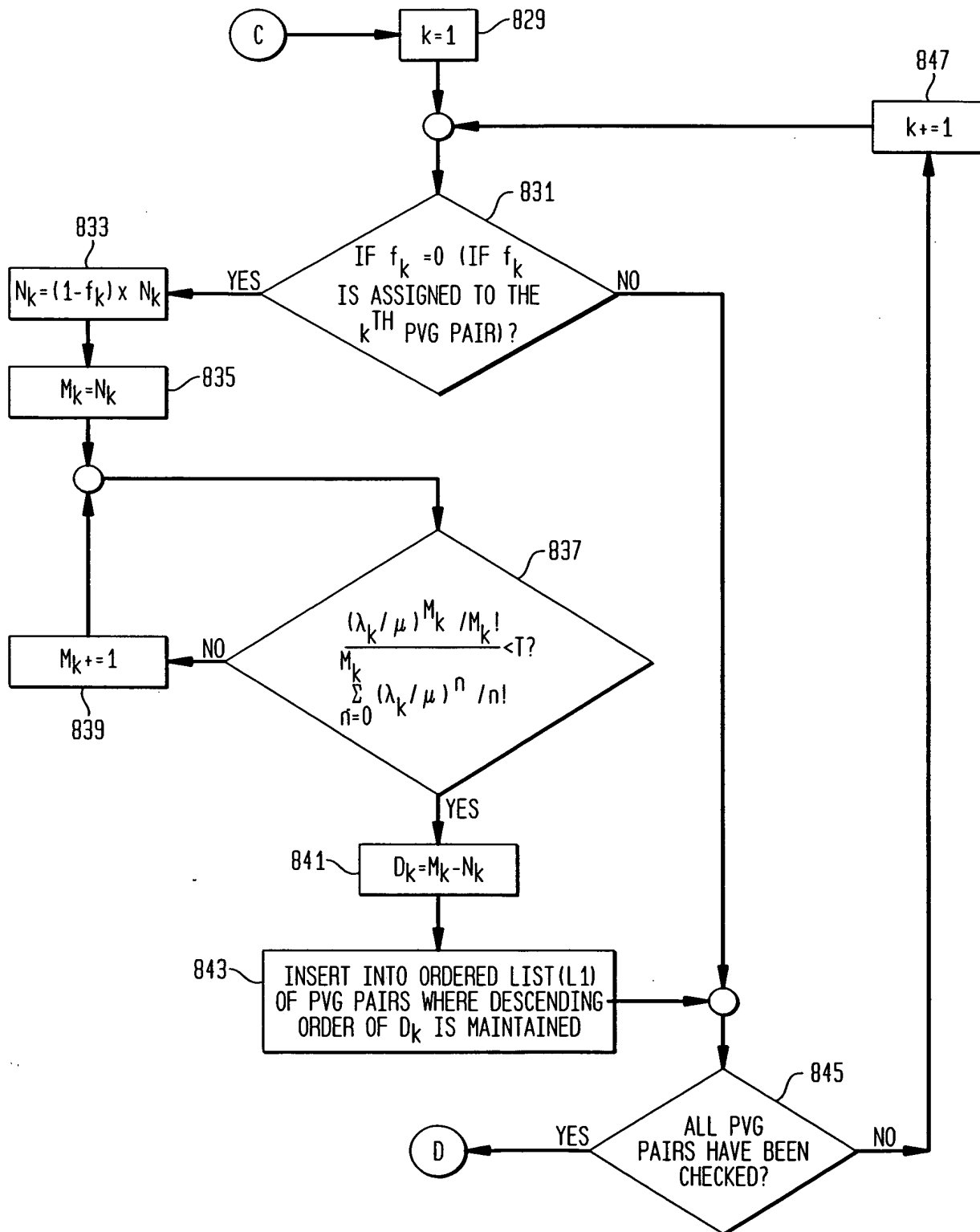
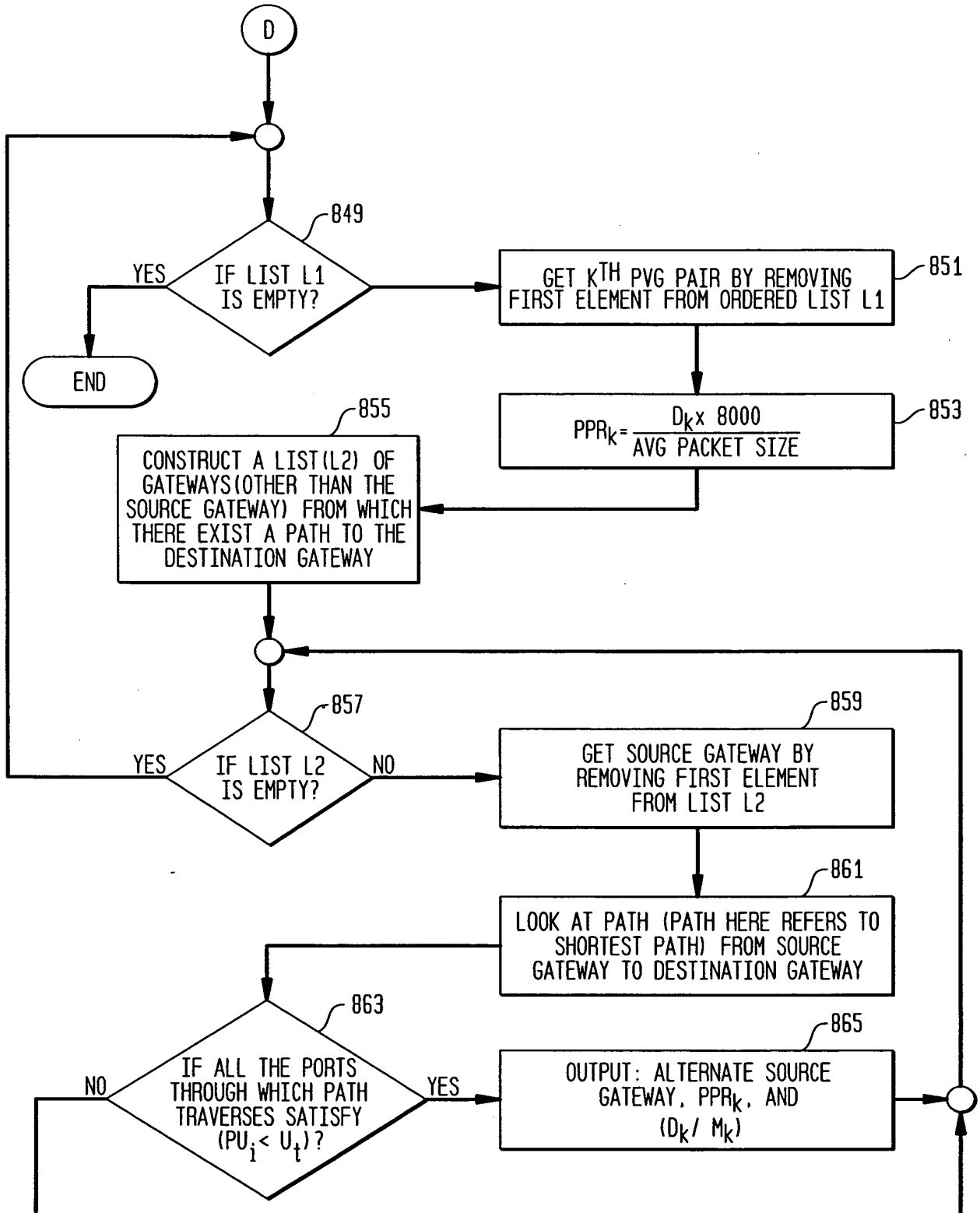


FIG. 8D



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FIG. 9A

900

COMPRESSION (AVAILABILITY/UNAVAILABILITY OF RTP MEASUREMENTS)

U_i = UTILIZATION OF i^{th} PORT

PC_i = CAPACITY OF i^{th} PORT

U_t = UTILIZATION THRESHOLD

λ_k = CALL ARRIVAL RATE FOR k^{th} PVG PAIR

N_k = NUMBER OF CALLS FOR WHICH BANDWIDTH IS ALLOCATED TO k^{th} PVG PAIR

CCR_k = CURRENT COMPRESSION RATE ALLOCATED TO k^{th} PVG PAIR

p_{B_i} = BANDWIDTH REDUCTION FACTOR DUE TO THE i^{th} PORT

p_{G_i} = BANDWIDTH INCREMENTAL FACTOR DUE TO THE i^{th} PORT

f_k = BANDWIDTH REDUCTION CORRECTION FACTOR ASSIGNED TO THE k^{th} PVG PAIR

e_k = BANDWIDTH INCREMENTAL CORRECTION FACTOR ASSIGNED TO THE k^{th} PVG PAIR

$(1/\mu)$ = AVERAGE CALL HOLDING TIME

T = BLOCKING THRESHOLD

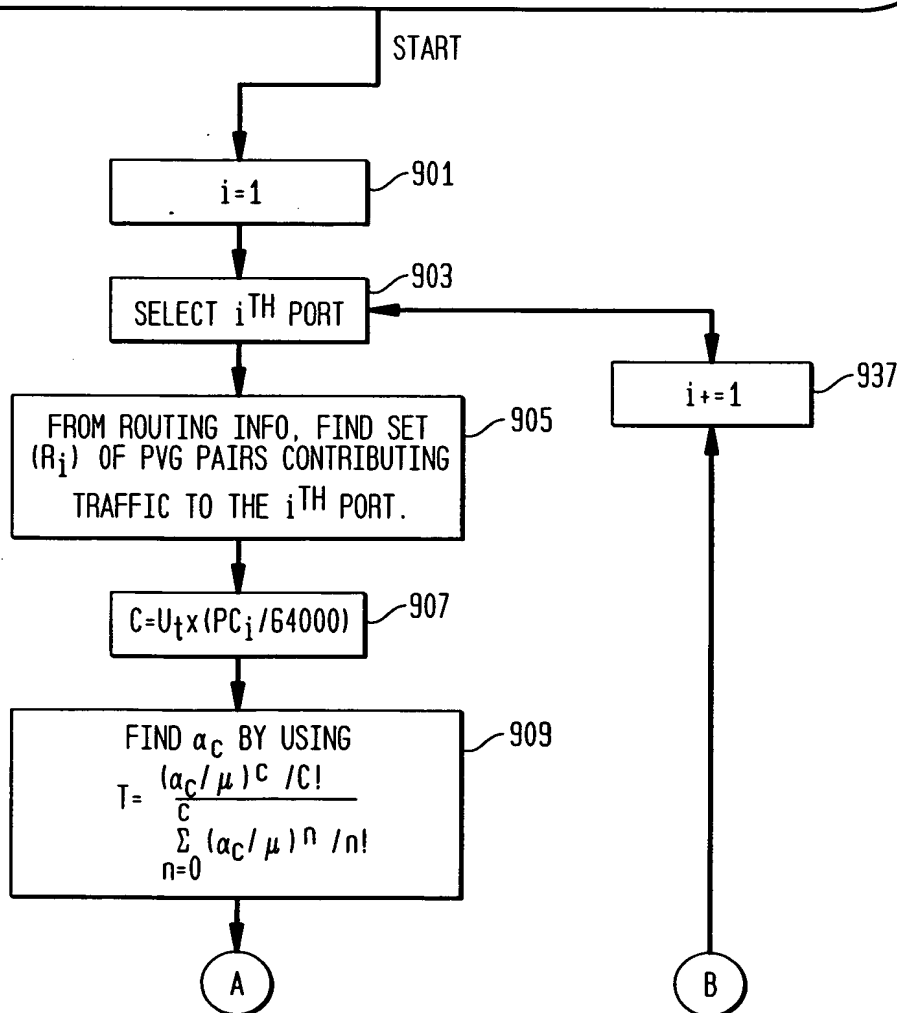


FIG. 9B

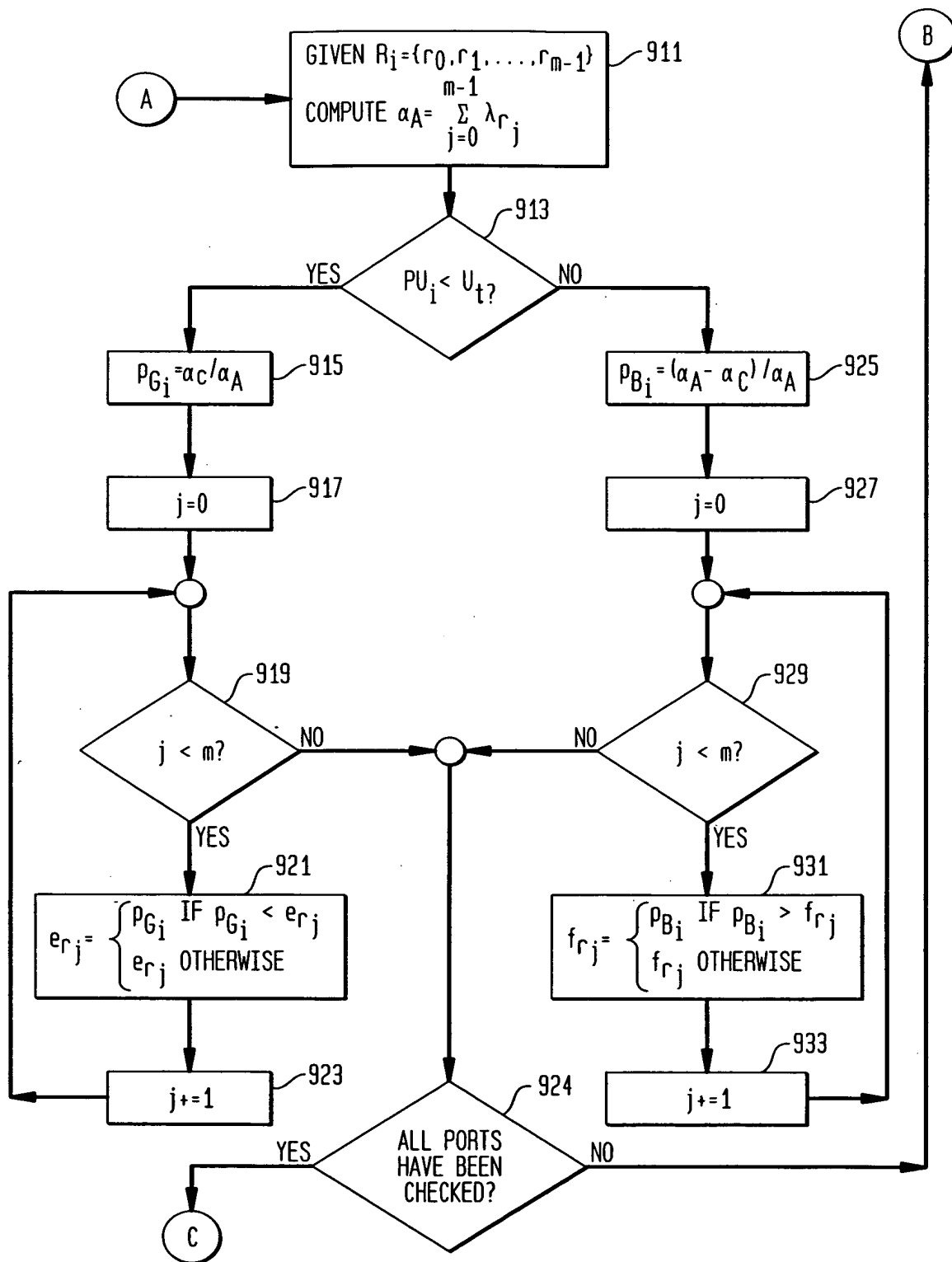


FIG. 9C

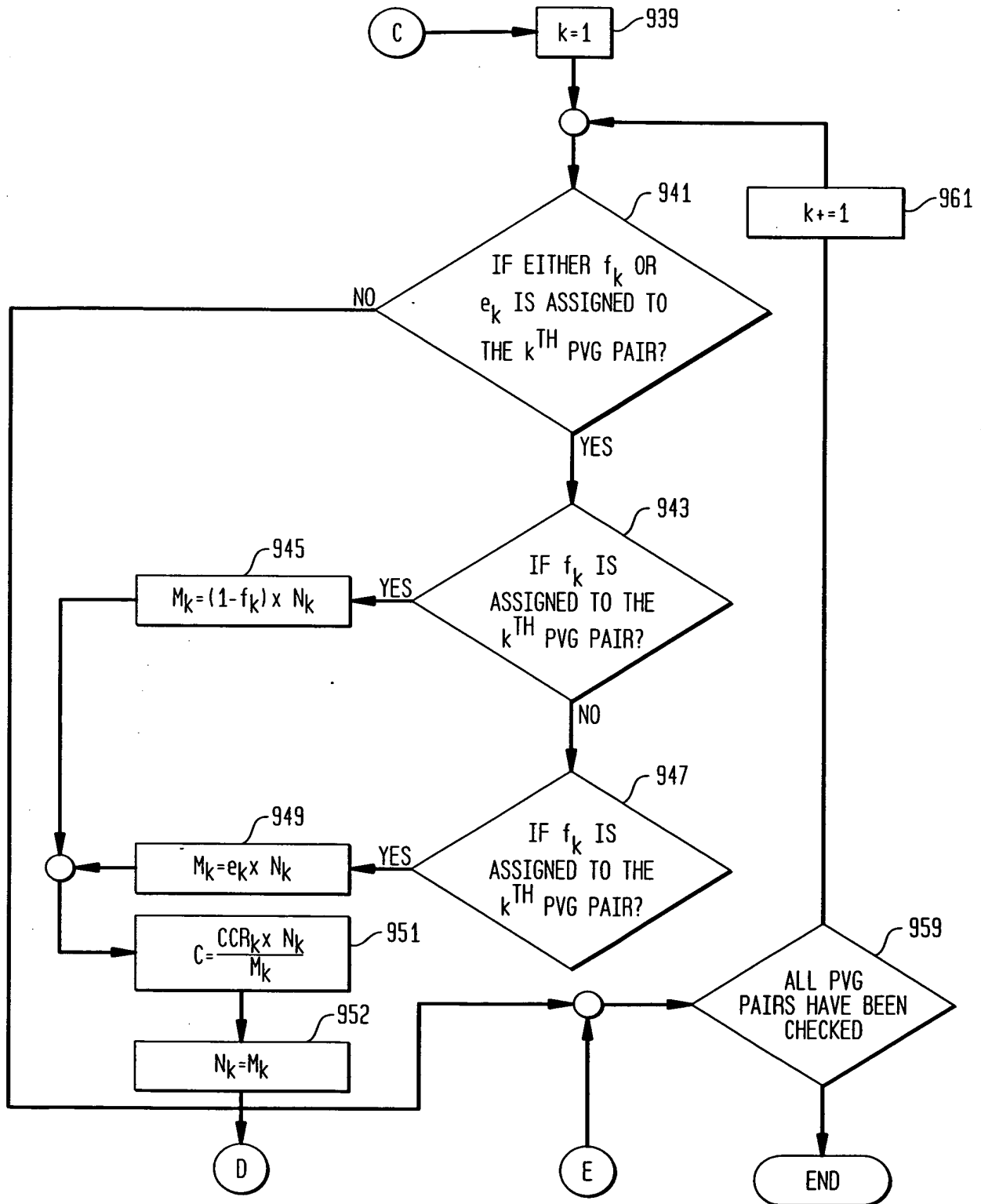


FIG. 9D

